

ABSTRACT

An implicit function field of a nonmanifold is held in a form of volume data; a value of an implicit function at  
5 a point between lattice points is decided by interpolation;  
and if a difference in code distances between two adjacent  
voxels to be interpolated is larger than a fixed width, no  
surface is formed between the voxels. Furthermore, an  
entered curved surface is broken down into curved surface  
10 patches which enable determination of a front and a back;  
numbers are given to the front and the back, respectively, to  
be distinguished from each other; and a space is classified  
into a plurality of regions by using the number of a surface  
of a nearest point.